Title (en)

RECOVERY OF GOLD FROM AURIFEROUS REFRACTORY IRON-CONTAINING SULPHIDIC ORE

Publication

EP 0177291 B1 19910502 (EN)

Application

EP 85306889 A 19850927

Priority

CA 464178 A 19840927

Abstract (en)

[origin: US4571264A] A process for recovering gold from refractory auriferous iron-containing sulphidic ore which comprises feeding ground ore as an aqueous slurry to an acidic pretreatment step. The ground ore in the acidic pretreatment step is treated with aqueous sulphuric acid solution to decompose carbonate and acid consuming gangue compounds, and subjecting the treated slurry to a first liquid-solids separation step to produce a sulphate solution and separated solids. Water is added to the separated solids in a first repulping step to form a slurry having a pulp density in the range of from about 25 to about 60% by weight solids. The first repulped slurry is oxidized in a pressure oxidation step at a temperature in the range of from about 135 DEG to about 250 DEG C. under a pressurized oxidizing atmosphere while maintaining a free acid concentration of from about 5 to 40 g/L sulphuric acid to cause dissolution of iron, formation of sulphuric acid and oxidation of substantially all oxidizable sulphide compounds to sulphate form with less than about 20% of oxidized sulphur being present as elemental sulphur during the oxidation step. Water is added to the oxidized slurry in a seocnd repulping step to produce a repulped oxidized slurry with a pulp density in the range of from about 5 to 15% by weight, and subjecting the repulped oxidized slurry to a second liquid-solids separation step to produce an acid and iron containing solution and oxidized separated solids. The acid and iron containing solution is recycled to at least one of the first and second repulping steps.

IPC 1-7

C22B 3/00; C22B 11/00; C22B 11/08

IPC 8 full level

C22B 11/00 (2006.01); **C22B 1/10** (2006.01); **C22B 3/00** (2006.01); **C22B 3/04** (2006.01); **C22B 3/08** (2006.01); **C22B 3/20** (2006.01); **C22B 11/08** (2006.01)

IPC 8 main group level

C22B (2006.01)

CPC (source: EP US)

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US 4571264 A 19860218; AU 4789485 A 19860410; AU 569417 B2 19880128; BR 8504707 A 19860722; CA 1234991 A 19880412; DE 3582710 D1 19910606; EP 0177291 A2 19860409; EP 0177291 A3 19880406; EP 0177291 B1 19910502; ES 547397 A0 19860401; ES 8606511 A1 19860401; FI 83541 B 19910415; FI 83541 C 19910725; FI 853714 A0 19850926; FI 853714 L 19860328; GR 852307 B 19860117; JP H0514775 B2 19930225; JP S61179823 A 19860812; MX 167461 B 19930324; PH 20721 A 19870330; PT 81219 A 19851001; PT 81219 B 19870930; ZA 857333 B 19860528; ZW 16085 A1 19860219

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